

ABSTRACT OF THE DISCLOSURE

A vertical MOS transistor which is reduced in size and cost and which has high drive performance, reliability and yield is provided. Also provided is a method of manufacturing the vertical MOS transistor. A polycrystalline silicon gate electrode is buried halfway down a trench and an intermediate insulating film is put on top of the gate electrode to fill the rest of the trench. The intermediate insulating film then receives etch-back to form a metal electrode in a self-aligning manner without intervention of a contact hole. This eliminates the need to allow a layout margin for misalignment or the like and therefore makes it possible to reduce a transistor area. This also gives the transistor high reliability since the metal electrode is leveled thoroughly.